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MEMORANDUM

TO: Randy Segawa
Senior Environmental Research Scientist
Environmental Monitoring and
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FROM: James R. Sanborn *JRS.*
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DATE: June 15, 2000

SUBJECT: **Limit of Quantitation (LOQ) for carbaryl air monitoring during sharpshooter control**

This memorandum responds to the request by email (June 13, 2000) from Randy Segewa for an LOQ for monitoring of carbaryl in ambient air during the treatment for the glassy wing sharpshooter. The process used for estimation of the LOQ has been described in HSM 98010. The acute, subchronic and chronic NOELs for carbaryl provided by Keith Pfeifer by email (June 12, 2000) of the Medical Toxicology Branch were 4 and 0.2 and 0.37 mg/kg/day, respectively. The LOQ estimate was derived for the child because of the highest ratio of breathing rate to body weight. As for inhalation parameters, the defaults 100% absorption and retention have been used in the calculations because no carbaryl-specific data exist for humans. The generally accepted safety factor of 100 was used in the calculation of the LOQ values.

<u>Endpoint</u>	<u>NOEL (mg/kg/day)</u>	<u>LOQ ($\mu\text{g}/\text{m}^3$)</u>
Acute	4.0	51.7 ^{a/}
Subchronic	0.20	2.59
Chronic	0.37	4.79
Sample Calculation: $\text{LOQ} = \text{NOEL (4.0 mg/kg/day)} \times \text{BW (21.6 kg)} / \text{BR (16.7 m}^3/\text{day)} /$ $\text{Safety Factor (100)} \times 1000 \mu\text{g/mg} = 51.7 \mu\text{g/m}^3$		

These LOQ value should provide sufficient sensitivity to estimate risks associated with exposure to carbaryl during application to control the glassywing sharp shooter.

cc: C. Andrews

